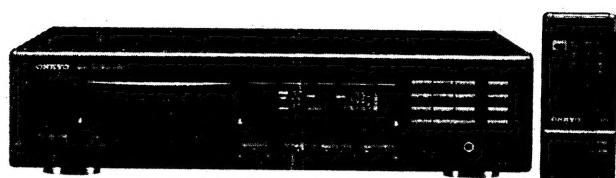
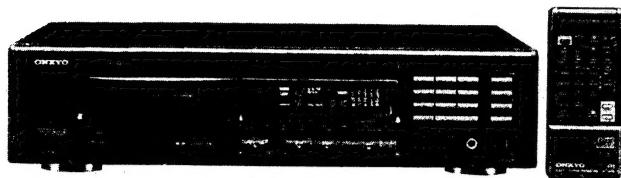


# ONKYO® SERVICE MANUAL

## COMPACT DISC PLAYER

**MODEL DX-6930****MODEL DX-6920**

Black and Silver models

**SAFETY-RELATED COMPONENT WARNING!!**

COMPONENTS IDENTIFIED BY MARK  $\Delta$  ON THE SCHEMATIC DIAGRAM AND IN THE PARTS LIST ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE THESE COMPONENTS WITH ONKYO PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL.

MAKE LEAKAGE-CURRENT OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED PARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

**SPECIFICATIONS**

Signal readout system:	Optical non-contact
Reading rotation:	About 500~200 r.p.m. (constant linear velocity)
Linear velocity:	1.2~1.4m/s
Error correction system:	Cross interleave readsolomon code
D/A converter:	1 bit PWM/Accu Pulse D/A converter
Sampling frequency:	352.8kHz (8 times oversampling)
Number of channels:	2 (Stereo)
Frequency response:	5Hz~20kHz
Total harmonic distortion:	0.004% (at 1kHz)
Dynamic range:	96dB
Signal to noise ratio:	100dB
Channel separation:	90dB (at 1kHz)
Wow and Flutter:	Below threshold of measurability
Power consumption:	12 watts
Output level:	2 volts r.m.s.
Dimensions (W×H×D):	455×110×306mm 18"×4-3/8"×12"
Weight:	5.0kg. 11.0 lbs.

Specifications are subject to change without notice.

**ONKYO®  
AUDIO COMPONENTS**

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**NOTE ON COMPACT DISC****• Holding Compact Discs**

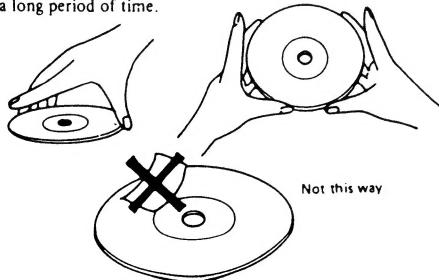
Hold Compact Discs by the edges so that you do not touch the surface of disc. Remember that the side of the disc with the "rainbow" reflection is the side containing the audio information.

Do not attach tape or paper to the label side of the disc and always be careful not to leave fingerprints on the side that is played.

**• Storing Compact Discs**

Store Compact Discs in a location protected from direct sunlight, high heat and humidity and extremely high and low temperatures. Discs should never be left in the trunk or interior of an automobile in the sun since the temperature can become very high in such a closed environment.

Always store Compact Discs in the holders in which they were sold. Never leave a disc in the player's disc holder for a long period of time.

**SERVICE PROCEDURES****1. Safety-check out**

After correcting the original service problem, perform the following safety check before releasing the set to the customer:

Connect the insulating-resistance tester between the plug of power supply cord and chassis.

Specifications: More than 10Mohm at 500V.

**CAUTION ON REPLACEMENT OF OPTICAL PICKUP**

The laser diode in the optical pickup block is so sensitive to static electricity, surge current and etc, that the components are liable to be broken down or its reliability remarkably deteriorated.

During repair, carefully take the following precautions.  
(The following precautions are included in the service parts.)

**PRECAUTIONS****1.Ground for the work-desk.**

Place a conductive sheet such as a sheet of copper (with impedance lower than  $10M\Omega$ ) on the work-desk and place the set on the conductive sheet so that the chassis.

**2.Grounding for the test equipment and tools.**

Test equipments and toolings should be grounded in order that their ground level is the same as the ground of the power source.

**3.Grounding for the human body.**

Be sure to put on a wrist-strap for grounding whose other end is grounded.  
Be particularly careful when the workers wear synthetic fiber clothes, or air is dry.

4.Select a soldering iron that permits no leakage and have the tip of the iron well-grounded.

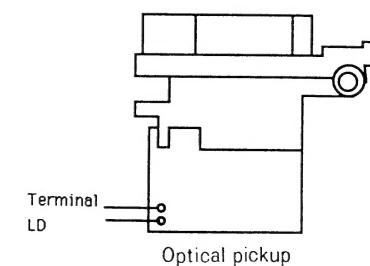
5.Do not check the laser diode terminals with the probe of a circuit tester or oscilloscope.

**Care Should be taken with the optical pickup.**

The optical pickup is sensitive to static electricity, surge currents, and other high electrical noise, and because there is the possibility of damage to performance, in the handling of the pickup, the utmost care must be taken, particularly with regard to static electricity.

1. When checking the laser terminal, avoid making connections using the probes of a tester or oscilloscope, or an ordinary power supply.

2. When replacing the optical pickup, first short the LD terminals and remove the connector. Also, when attaching the new optical pickup, after attaching the connector, unsolder the LD terminals.

**• Cleaning Compact Discs**

Before playing a disc wipe off the playing surface with a soft cloth to remove dust and other soil. Wipe the surface in straight lines from the center of the disc outward, not in a circular motion as you would with a phonograph record.

Do not use benzene, chemical cleaners or phonograph record cleaning solutions to clean Compact Discs. Also avoid static electricity prevention solutions since they can damage the surface of Compact Discs.

**Problems Caused by Dew**

Dew can form inside a Compact player when it is brought from a cold environment into a warm room, when a room is rapidly heated and if a player is left in a humid environment.

This dew can prevent the laser pickup from reading the data contained in the pits in the disc surface. If the player does not operate properly because of dew, remove the disc and leave the player's power switch on for about one hour to remove all moisture.

## PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs a laser. Therefore, be sure to follow carefully the instructions below when servicing.

### WARNING!!

WHEN SERVICING, DO NOT APPROACH THE LASER EXIT WITH THE EYE TOO CLOSELY. IN CASE IT IS NECESSARY TO CONFIRM LASER BEAM EMISSION, BE SURE TO OBSERVE FROM A DISTANCE OF MORE THAN 30cm FROM THE SURFACE OF THE OBJECTIVE LENS ON THE OPTICAL PICK-UP BLOCK.

## LASER WARNING LABELS

The label shown below are affixed.

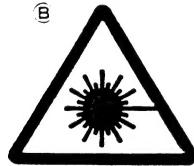
### 1. Warning labels

These labels are located on the arm of mechanism and the back panel.

**DANGER** —INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCK FAILED OR DEFECTED. AVOID DIRECT EXPOSURE TO BEAM

**CAUTION** —HAZARDOUS LASER AND ELECTROMAGNETIC RADIATION WHEN OPEN AND INTERLOCK DEFECTED

**ATTENTION** —RAYONNEMENT LASER ET ELECTROMAGNETIQUE DANGEREUX SI OUVERT AVEC L'ECLENCHEMENT DE SECURITE ANNULE.



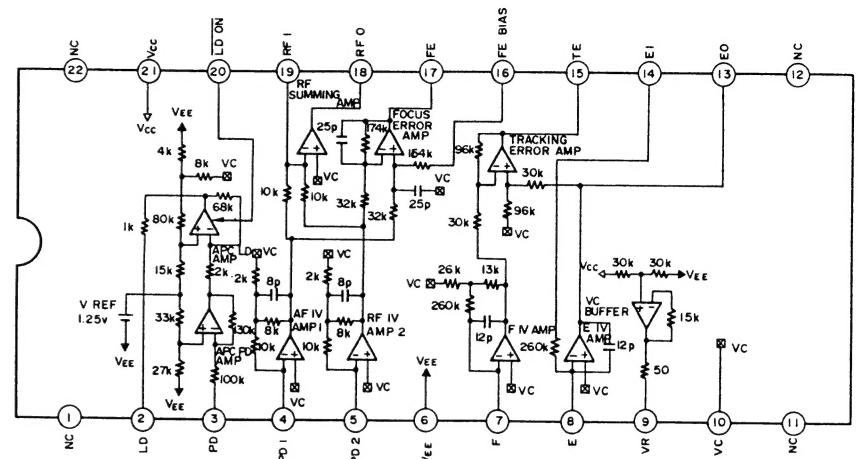
### Laser Diode Properties

- Material: GaAs/GaAlAs
- Wavelength: 780nm
- Emission Duration: continuous
- Laser output: max. 0.5mW\*

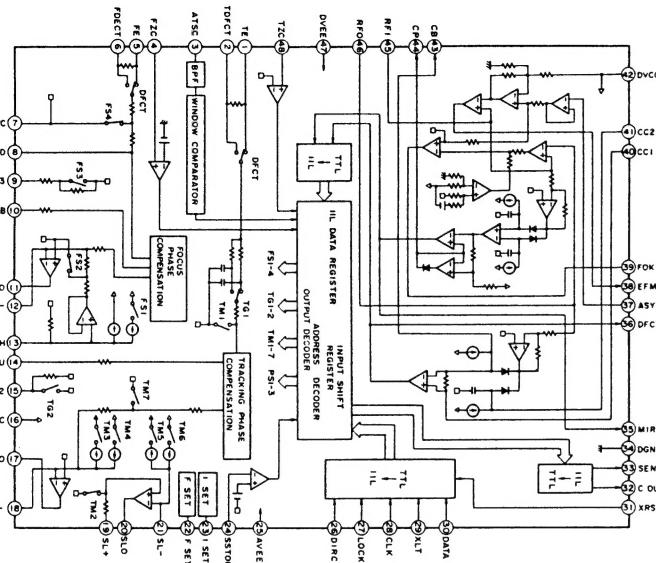
\*This output is the value measured at a distance about 1.8mm from the objective lens surface on the Optical Pick-up Block.

## IC BLOCK DIAGRAM AND DESCRIPTIONS

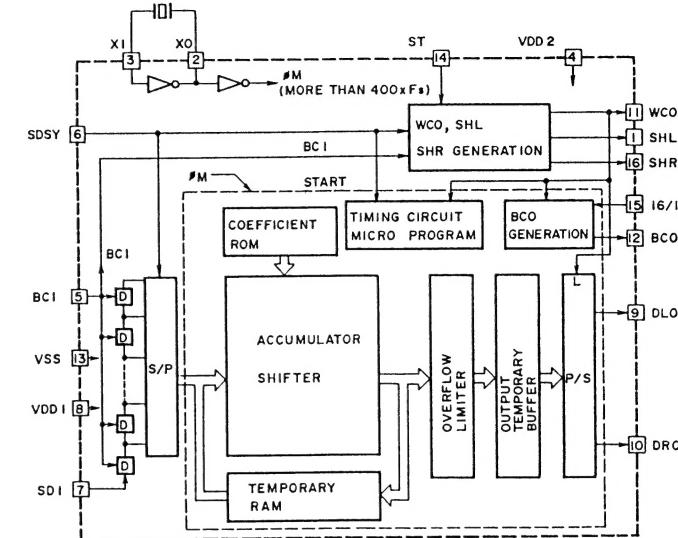
### CXA1571S (RF Amp)



Pin No.	Symbol	I/O	Description
2	LD	O	Output terminal of APC amplifier.
3	PD	I	Input terminal of APC amplifier.
4	PD1	I	Inversion input terminal for RF I-V amplifier. Connect to photo diode A+C.
5	PD2	I	Inversion input terminal for RF I-V amplifier. Connect to photo diode B+D.
7	F-IN	I	Inversion input terminal for F I-V amplifier. Connect to photo diode F.
8	E-IN	I	Inversion input terminal for E I-V amplifier. Connect to photo diode E.
9	VR	O	DC voltage output of $(V_{CC} + V_{EE})/2$ .
10	VC	I	Middle point voltage input terminal.
13	EO	O	Monitor output terminal for I-V amplifier E.
14	EI	-	Gain adjustment terminal for I-V amplifier E.
15	TE	O	Tracking error amplifier output terminal. The signal E-F is output from this terminal.
16	FE-BIAS	I	Bias adjustment terminal for non-inversion side of focus error amplifier.
17	FE	O	Focus error amplifier output terminal.
18	RFO	O	RF amplifier output terminal.
19	RF1	I	Inversion input terminal of RF amplifier.
20	LD-ON	I	Change-over terminal for APC amplifier.

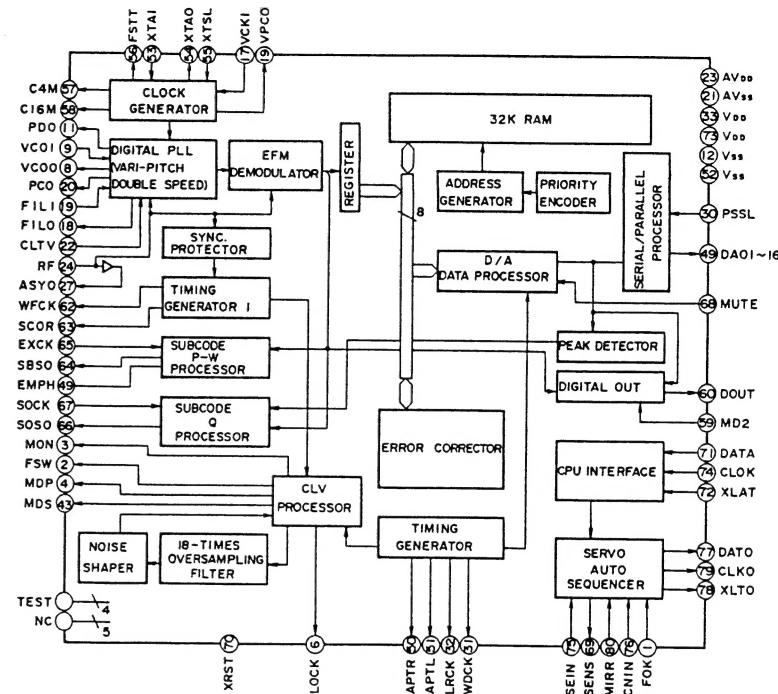
**CXA1372S ( Servo Signal Processor )**

PIN NO.	SYMBOL	I/O	DESCRIPTION
1	TE	I	Tracking error input terminal.
2	TDFCT	I	Capacitor connection terminal for time constant when detect.
3	ATSC	I	Window comparator input terminal for ATSC detection.
4	FZC	I	Focus zero-cross comparator input terminal.
5	FE	I	Focus error input terminal.
6	FDFT	I	Capacitor connection terminal for time constant when detect.
7	VC	I	Mid-point voltage input terminal.
8	FGD	I	Connect the capacitor between pin 9 and this pin when the high frequency gain of focus servo is dropped.
9	FS3	I	Focus servo high frequency gain changeover input terminal.
10	FLB	I	Input terminal for the low frequency boost of focus servo.
11	FEO	O	Focus drive output terminal.
12	FE-	I	Inversion input terminal of focus amplifier.
13	SRCH	I	Time constant terminal to make the focus search waveform.
14	TGU	I	Tracking high frequency gain changeover input terminal.
15	TG2	I	Tracking high frequency changeover input terminal.
17	TAO	O	Tracking drive output terminal.
18	TA-	I	Inversion input terminal of tracking amplifier.
19	SL+	I	No-inversion input terminal of sled amplifier.
20	SLO	O	Sled(slide) drive output terminal.
21	SL-	I	Inversion input terminal of sled amplifier.

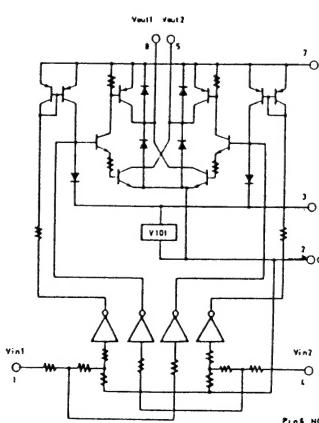
**YM3433(18 bits/8 times Oversampling Digital Filter)**

Pin No.	Terminal	Function
1	SIIL	ST=L(1 DAC):L channel deglitch signal output. ST=H(2 DACs):L and R channels deglitch signal output. (Not used.)
2	XO	Connect the crystal oscillator for the system clock to these terminals.
3	XI	
4	VDD2	Power supply terminal for crystal oscillator and deglitch signal system.
5	BCI	Bit clock input terminal of input data.
6	SDSY	Clock input terminal to show the input timing and L/R channels partitioned of input data.
7	SDI	Data input terminal.
8	VDD1	Power supply terminal.(Connect to 5V.)
9	DLO	ST=L(1 DAC):L and R channels data output terminal. ST=H(2 DAC):L channel data output terminal.
10	DRO	R channel data output terminal.
11	WCO	Word clock output terminal for output data DLO/DRO.
12	BCO	Bit clock output terminal for output data DLO/DRO.
13	VSS	Ground terminal.
14	ST	1 DAC/2 DAC selection terminal.(1 DAC at low level and 2 DAC at high level.)
15	16/18	Bit number selection terminal.(16 bits at low level and 18 bits at high level.)
16	SIIR	1 DAC(ST=L):R channel deglitch signal output.(Not used.)

## CXD2500AQ (Digital Signal Processor)

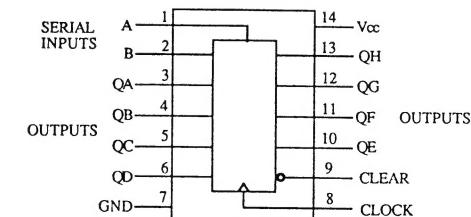


## LB1639 (Volume Motor Drive)



## 74HC164(8-bits Serial/Parallel Output Shift Register)

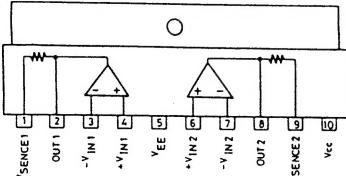
		Inputs		Outputs	
Clear	Clock	A	B	QA	QB
L	X	X	X	L	L
H	L	X	X	QAO	QBO
H	↑	H	H	H	QAn
H	↑	L	X	L	QAn
H	↑	X	L	L	QAn



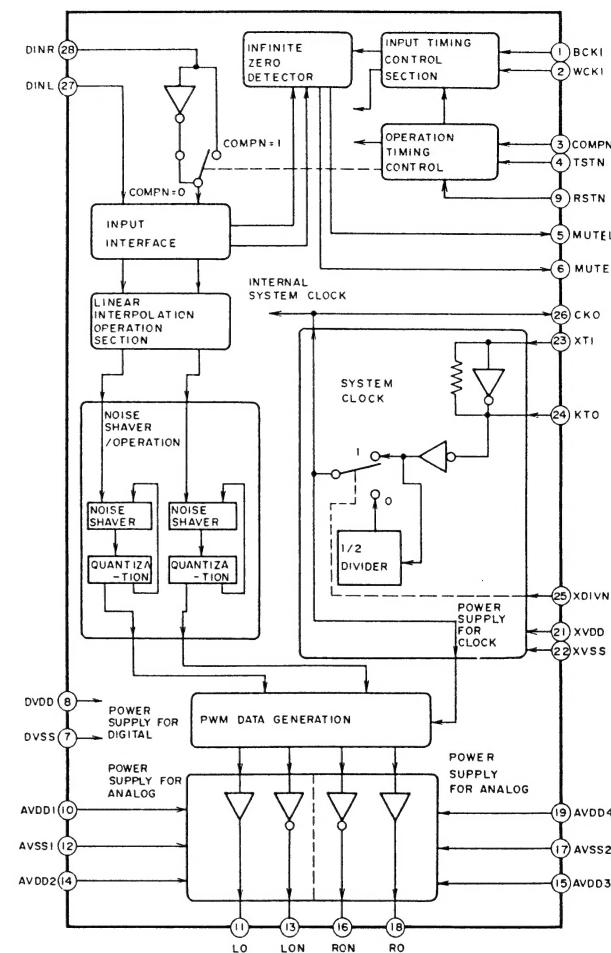
NO.	SYMBOL	I/O	DESCRIPTION	NO.	SYMBOL	I/O	DESCRIPTION
1	FOK	I	Focus OK input	42	DA08	O	DA08 GFS output
2	FSW	O	Output filter changeover output of spindle motor	43	DA07	O	DA07 RFCK output
3	MON	O	Spindle motor control output	44	DA06	O	DA06 C2PO output
4	MDP	O	Spindle motor servo control	45	DA05	O	DA05 XRAOF output
5	MDS	O	Spindle motor servo control	46	DA04	O	DA04 MNT3 output
6	LOCK	O	H when GFS is high	47	DA03	O	DA03 MNT2 output
7	NC			48	DA02	O	DA02 MNT1 output
8	VCOO	O	Oscillation circuit output for analog FEM PLL	49	DA01	O	DA01 MINT0 output
9	VCOI	I	Oscillation circuit input for analog EFM PLL. (8.643MHz)	50	APTR	O	Control output for aperture correction. H when Rch.
10	TEST	I	Test terminal	51	APTI	O	Control output for aperture correction. H when Lch.
11	PDO	O	Charge pump output for analog EFM PLL.	52	Vss		Ground terminal
12	Vss		Ground terminal	53	XTAI	I	Crystal oscillation circuit input of 16.934MHz or 33.808MHz input
13-15	NC			54	XTAO	O	Crystal oscillation circuit output of 16.934MHz
16	VPCO	O	PLL charge pump output for variable pitch	55	XTSL	I	Crystal selection input terminal. I, when 16.934MHz. H when 33.808MHz.
17	VCKI	I	Clock input for variable pitch from VCO (16.934MHz)	56	FSTT	O	2/3 divided output of pins 53 & 54
18	FIL0	O	Filter output for master PLL	57	C1M	O	4.236MHz output
19	FIL1	I	Filter input for master PLL.	58	C1GM	O	16.934MHz output
20	FCO	O	Charge pump output for master PLL.	59	MD2	I	Digital output control input. On at H & Off at L.
21	AVss		Analog ground	60	DOUT	O	Digital output
22	CLTV	I	VCO control voltage input for master	61	EMPH	O	Emphasis control output. Active H.
23	AVDD		Analog section power supply (+5V)	62	WFCK	O	Write frame clock output
24	RF	I	EFM signal input	63	SCDR	O	Sub-code detection output. H when is detected S0 or S1.
25	TEST2	I	Connect to the ground.	64	SBSO	O	Serial output of sub code(P-W)
26	TEST3	I	Connect to the ground.	65	EXCK	I	Clock input for read out SBSO
27	ASYO	O	EFM full swing output	66	SQSO	O	Sub Q 80 bits, PCM peak, and level data 16 bits output
28	TEST4	I	Connect to the ground.	67	SQCK	I	Clock input for read out SQSO
29	NC			68	MUTE	O	Muting control output. Active H.
30	PSSL	I	Audio data output mode changeover input. Serial data at L, and parallel data at H.	69	SENS	-	Sens output. Output to microprocessor
31	WDCK	O	D/A interface for 48 bits slot. Word clock f=2Fs.	70	XRST	I	System reset. Rest at low level.
32	LRCK	O	D/A interface for 48 bits slot. LR clock f=Fs.	70	DATA	I	Serial data input from microprocessor
33	VDD		Power supply terminal (+5V)	72	XLTA	I	Latch input from microprocessor. Latch the serial data at trailing.
34-49			Data output terminals	73	VDD		Power supply
			PSSL=1 PSSL=0	74	CLOK	I	Serial data transfer clock input from microprocessor
34	DA16	O	DA16 Serial data of 48 bits slot	75	SEIN	I	Sens input from SSP
35	DA15	O	DA15 Bit clock of 48 bits slot	76	CNCI	I	Track jump numbers count signal input
36	DA14	O	DA14 Serial data of 64 bits slot	77	DATO	O	Serial data output to SSP
37	DA13	O	DA13 Bit clock of 68 bits slot	78	XLTO	O	Serial data latch output to SSP. Latch at trailing
38	DA12	O	DA12 LR clock of 68 bits slot	79	CLKO	O	Serial data transfer clock output to SSP
39	DA11	O	DA11 GTOP output	80	MIRR	I	Mirror signal input
40	DA10	O	DA10 XUGF output				
41	DA09	O	DA09 XPLCK output				

Note:SSP-Q104 CXA1372S

## LA6510 (Power OP Amp)

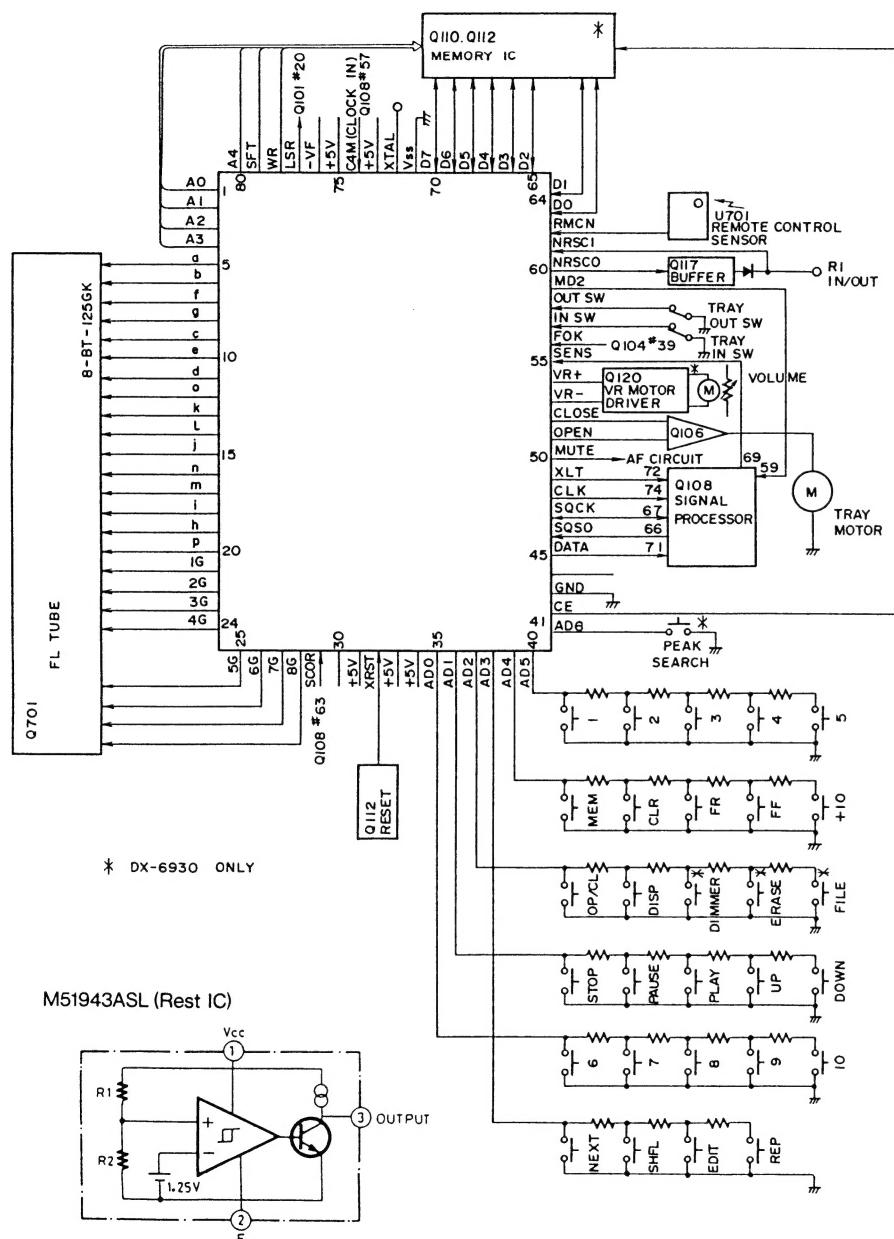


## SM5861AP (D/A converter)



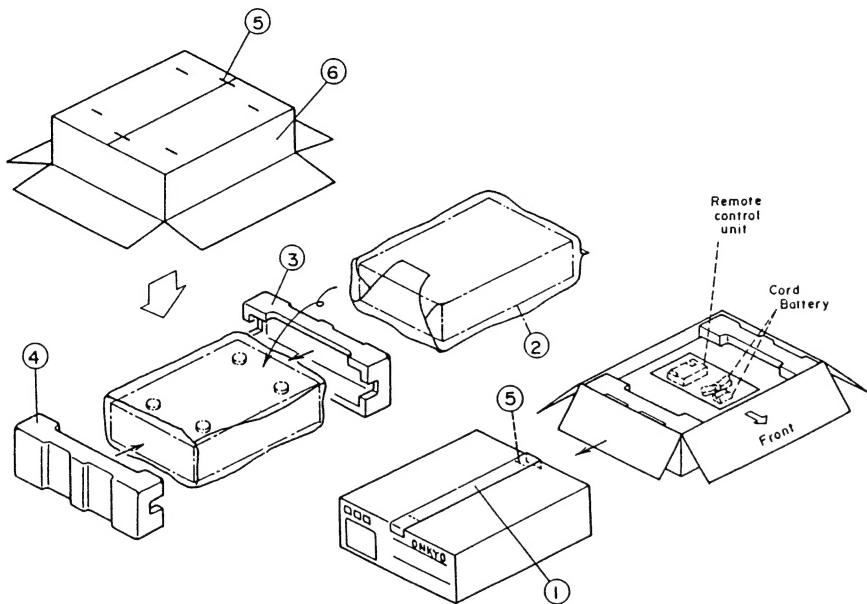
Pin No.	Symbol	Description	Pin No.	Symbol	Description
1	BCKI	Serial input data bit clock	15	AVDD3	5V supply for analogue section
2	WCKI	Input data word clock	16	RON	Data output
3	COMPN	Mode select of PWM output	17	AVSS2	Ground for analogue section
4	TSTN	Test terminal	18	RO	Data output
5	MUTEL	Muting output for left channel	19	AVDD4	Ground for analogue section
6	MUTER	Muting output for right channel	20	NC	
7	DVSS	Ground for digital section	21	XVDD	5V supply for clock section
8	DVDD	5V power supply for digital section	22	XVSS	Ground for clock section
9	RSTN	Reset input	23	XTI	
10	AVDD1	5V supply for analogue section	24	XTO	晶振 oscillator output
11	LO	Data output	25	XDIVN	System clock select
12	AVSS1	Ground for analogue section	26	CKO	Clock output
13	LON	Data output	27	DINL	Serial data input for left channel
14	AVDD2	5V supply for analogue section	28	DJNR	Serial data input for right channel

## CXP50112 - 369Q (Microprocessor)



Pin No.	Symbol	Description
1~4	A0~A3	Music file address signal.
5~20	a~p	Fluorescent indicator tube segment drive output terminals.
21~28	1G~8G	Fluorescent indicator tube grid drive output terminals.
29	SCOR	Synchronizing signal detection input terminal of sub code frame.
31	5V	
32	XRST	Reset input terminal. Reset at the low level.
33,34	5V	
35~41	AD0~AD6	AD input terminal. Connect to the operation key.
42	CE	Chip enable terminal.
43	GND	
45	DATA	Serial data output terminal.
46	SQSO	Subcode Q input terminal.
47	SQCK	Subcode Q read clock input/output terminal.
48	CLK	Serial data transmission clock output terminal.
49	XLT	Command execution output terminal.
50	MUTE	Muting ON/OFF control output terminal. ON at the high level.
51	OPEN	Tray open control output terminal. Open at the low level.
52	CLOSE	Tray close control output terminal. Close at the low level.
53	VR-	Volume control output.
54	VR+	Volume control output.
55	SENS	Interface of signal processor and microprocessor ICs.
56	FOK	Focus OK input terminal. Focus OK at the high level.
57	INSW	Tray close detection input terminal.
58	OUTSW	Tray open detection input terminal.
59	MD2	Digital output control output.
60	NRSCO	Remote control signal (RI signal) output terminal.
61	NRSCI	Remote control signal (RI signal) input terminal.
62	RMCN	Remote control signal input terminal.
63~70	D0~D7	Music file data signal.
71	Vss	Ground terminal.
72	XTAL	Clock output terminal.
73	5V	
74	C4M	System clock input terminal.
75	5V	
76	VF	Negative power supply terminal for fluorescent indicator tube.
77	LSR	Optical pickup control output terminal. On at the low level.
78	WR	Music file read/write control signal.
79	SFT	Music file shift signal. Control the serial data at the rise pulse.
80	A4	Music file address signal.

## PACKING VIEW



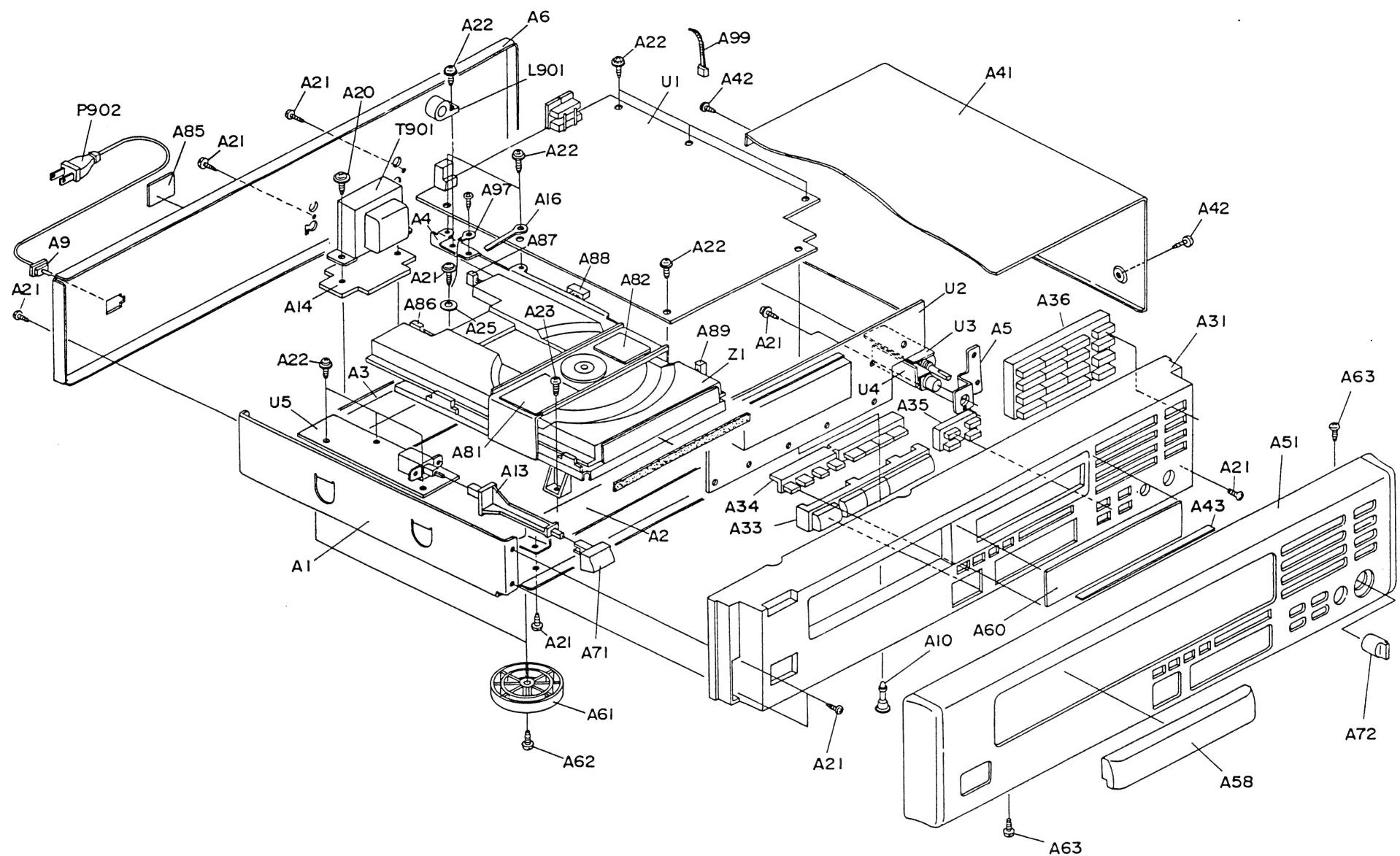
REF NO.	PART NO.	DESCRIPTION
1	29110071	Damplon tape
2	29100037A	500×650mm,Styrene bag
3	29091434Y	Pad R
4	29091433Y	Pad L
5	282301	Sealing hook
6	29052372Y	Master carton box <DX-6920BH>
	29052373Y	Master carton box <DX-6920S>
	29052375Y	Master carton box <DX-6930BH>
	29052376Y	Master carton box <DX-6930S>

Accessory bag ass'y

2010098A	Connection cord
2010200	Remote control cord
24140196Y	RC-196C,Remote control transmitter <DX-6920>
24140221Y	RC-221C,Remote control transmitter <DX-6930>
29341706Y	Instruction manual
3010054	UM-3,Two batteries
29100097	350×250,Styrene bag
29365020E	Warranty card
29100094A	Styrene bag for warranty card

NOTE: <BH>:Black model only  
<S>:Silver model only

## **CHASSIS-EXPLODED VIEW**



# PARTS LIST

DX-6920

REF.NO.	PART NO.	DESCRIPTION	REF.NO.	PART NO.	DESCRIPTION
A1	27100227BY	Chassis	A61	27175254Y	Leg
A2	27141520Y	Bracket F	A62	834430088	3TTS+8B(BC),Self-tapping screw
A3	27141521Y	Bracket R	A63	833430080	3TTP+8P(BC),Self-tapping screw
A4	27130642Y	Bracket C	A71	28324140	Knob,power <B>
A5	27141522Y	Bracket HP		28324184	Knob,power <S>
A6	27121564Y	Back panel	A72	28324564Y	Knob,level <B>
A9	27300750	▲ Bushing		28324565Y	Knob,level <S>
A10	27190524	KGLS-14R,Holder	A81	29360807	Label DANGER
A13	27273149Y	Joint,power	A82	29361218	Label LASER
A14	27270214B	Spacer	A85	29360687	Label CLASS1
A16	27255004	CS-1U,Clip	A86	2000951	NSAS-8P903,Socket
A19	834426068	2.6TTS+6B(BC),Self-tapping screw	A87	2000952	NSAS-8P904,Socket
A20	830440109	4TTC+10C(BC),Self-tapping screw	A88	2002390810	NSAS-8P0120,Socket
A21	834430088	3TTS+8B(BC),Self-tapping screw	A89	2002391020	NSAS-10P0119,Socket
A22	831130088	3TTW+8B,Self-tapping screw	A97	2061112100	Cord ass'y
A23	833430080	3TTP+8P(BC),Self-tapping screw	A99	260208	Binder
A24	87643010	W3×10F(BC),Washer	L901	230910	▲ ESD-R-25DB,Core
A31	27110689Y	Front bracket ass'y <B>	P901	253164Y or	▲ AS-CEE250V2.5A,
	27110690Y	Front bracket ass'y <S>		253149	▲ Power supply cord
A33	28324570Y	Knob,play <B>	T901	2300776Y	▲ NPT-1138P,Power transformer
	28324571A	Knob,play <S>	U1	1H194516-1A	NAAR-4416-1A,Main circuit pc board ass'y
A34	28324578Y	Knob FF <B>	U2	1H194517-1	NADIS-4417-1,Display circuit pc board ass'y
	28324579Y	Knob FF <S>	U3	1H194518-1	NAAF-4418-1,Headphone amplifier pc board ass'y
A35	28324580Y	Knob REP <B>	U4	1H194519-1	NAAF-4419-1,Headphone terminal pc board ass'y
	28324581Y	Knob REP <S>	U5	1H194520-1	NAPS-4420-1,Power supply circuit pc board ass'y
A36	28324574Y	Knob TEN <B>	U6	1H194521-1	NAPS-4421-1,Terminal pc board ass'y
	28324575A	Knob TEN <S>	Z1	24800001Y	NCD-113S,CD mechanism ass'y
A37	27150344	Shield plate P <S>			
A38	27150345	Shield plate <S>			
A41	28184469Y	Top cover			
A42	834430088	3TTS+8B(BC),Self-tapping screw			
A43	28140680	0.5×8×180,Cushion			
A51	1H196701K	Front panel ass'y <B>			
	1H197701K	Front panel ass'y <S>			
	28125222AY	End cap L			
	28125223AY	End cap R			
A58	27211397Y	Tray panel <B>			
	27211398	Tray panel <S>			
A60	28191623AY	Clear plate			

NOTE: <B>:Black model only  
<S>:Silver model only

NOTE: THE COMPONENTS IDENTIFIED BY MARK ▲ ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

**PARTS LIST**

DX-6930

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REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
A1	27100227BY	Chassis	A61	27175254Y	Leg
A2	27141520Y	Bracket F	A62	834430088	3TTS+8B(BC),Self-tapping screw
A3	27141521Y	Bracket R	A63	833430080	3TTP+8P(BC),Self-tapping screw
A4	27130642Y	Bracket C	A71	28324140	Knob,power <B>
A5	27141522Y	Bracket HP		28324184	Knob,power <S>
A6	27121568Y	Back panel	A72	28324564Y	Knob,level <B>
A9	27300750	▲ Bushing		28324565Y	Knob,level <S>
A10	27190524	KGLS-14R,Holder	A81	29360807	Label DANGER
A13	27273149Y	Joint,power	A82	29361218	Label LASER
A14	27270214B	Spacer	A85	29360687	Label CLASS1
A16	27255004	CS-1U,Clip	A86	2000951	NSAS-8P903,Socket
A19	834426068	2.6TTS+6B(BC),Self-tapping screw	A87	2000952	NSAS-8P904,Socket
A20	830440109	4TTC+10C(BC),Self-tapping screw	A88	2002390810	NSAS-8P0120,Socket
A21	834430088	3TTS+8B(BC),Self-tapping screw	A89	2002391020	NSAS-10P0119,Socket
A22	831130088	3TTW+8B,Self-tapping screw	A97	2061112100	Cord ass'y
A23	833430080	3TTP+8P(BC),Self-tapping screw	A99	260208	Binder
A24	87643010	W3×10F(BC),Washer	L901	230910	▲ ESD-R-25DB,Core
A31	27110689Y	Front bracket ass'y <B>	P901	253164Y or	▲ AS-CEE250V2.5A,
	27110690Y	Front bracket ass'y <S>		253149	▲ Power supply cord
A33	28324570Y	Knob,play <B>	T901	2300776Y	▲ NPT-1138P,Power transformer
	28324571A	Knob,play <S>	U1	1H190516-2A	NAAR-4416-2A,Main circuit pc board ass'y
A34	28324572Y	Knob FF <B>	U2	1H190517-2	NADIS-4417-2,Display circuit pc board ass'y
	28324573Y	Knob FF <S>	U3	1H190518-2	NAAF-4418-2,Headphone amplifier pc board ass'y
A35	28324576Y	Knob REP <B>	U4	1H190519-2	NAAF-4419-2,Headphone terminal pc board ass'y
	28324577Y	Knob REP <S>	U5	1H190520-2	NAPS-4420-2,Power supply circuit pc board ass'y
A36	28324574Y	Knob TEN <B>	U6	1H190521-2	NAPS-4421-2,Terminal pc board ass'y
	28324575A	Knob TEN <S>	Z1	24800001Y	NCD-113S,CD mechanism ass'y
A37	27150344	Shield plate P <S>			
A38	27150345	Shield plate <S>			
A41	28184469Y	Top cover			
A42	834430088	3TTS+8B(BC),Self-tapping screw			
A43	28140680	0.5×8×180,Cushion			
A51	1H192701K	Front panel ass'y <B>			
	1H193701K	Front panel ass'y <S>			
	28125222AY	End cap L			
	28125223AY	End cap R			
A58	27211397Y	Tray panel <B>			
	27211398	Tray panel <S>			
A60	28191623AY	Clear plate			

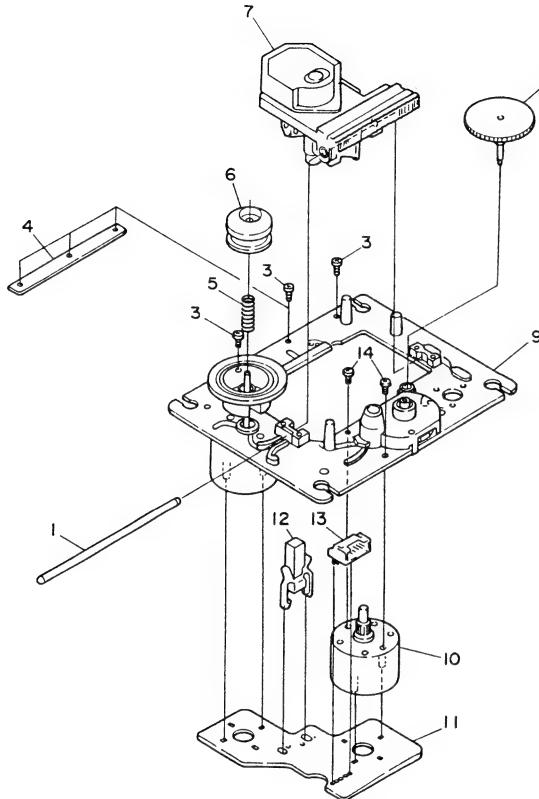
NOTE: &lt;B&gt;:Black model only

&lt;S&gt;:Silver model only

NOTE: THE COMPONENTS IDENTIFIED BY MARK  
 ▲ ARE CRITICAL FOR RISK OF FIRE AND  
 ELECTRIC SHOCK. REPLACE ONLY WITH  
 PART NUMBER SPECIFIED.

## MECHANISM-EXPLODED VIEW

PICKUP DRIVE UNIT-EXPLODED VIEW



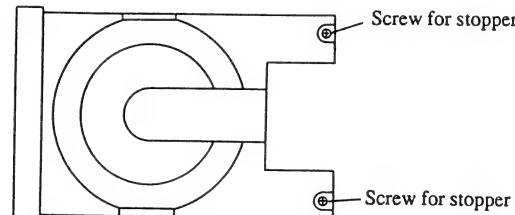
## PARTS LIST

REF.NO.	PART NO.	DESCRIPTION	REF.NO.	PART NO.	DESCRIPTION
1	24828003	Sled shaft	8	24810006	Wheel
2			9	24802003	Turntable chassis
3	801425	2X5.Self-tapping screw	10	24804004	Motor gear
4	24822004	Plate	11	24840007	Motor pc board
5	24820003	Spring	12	24840008	Leafswitch
6	24822005	Center ring	13	25050396	NSCT-4P223,Connector
7	24110008	KSS-210A,Optical pickup	14	82142003	2P+3F(BC),Pan head screw

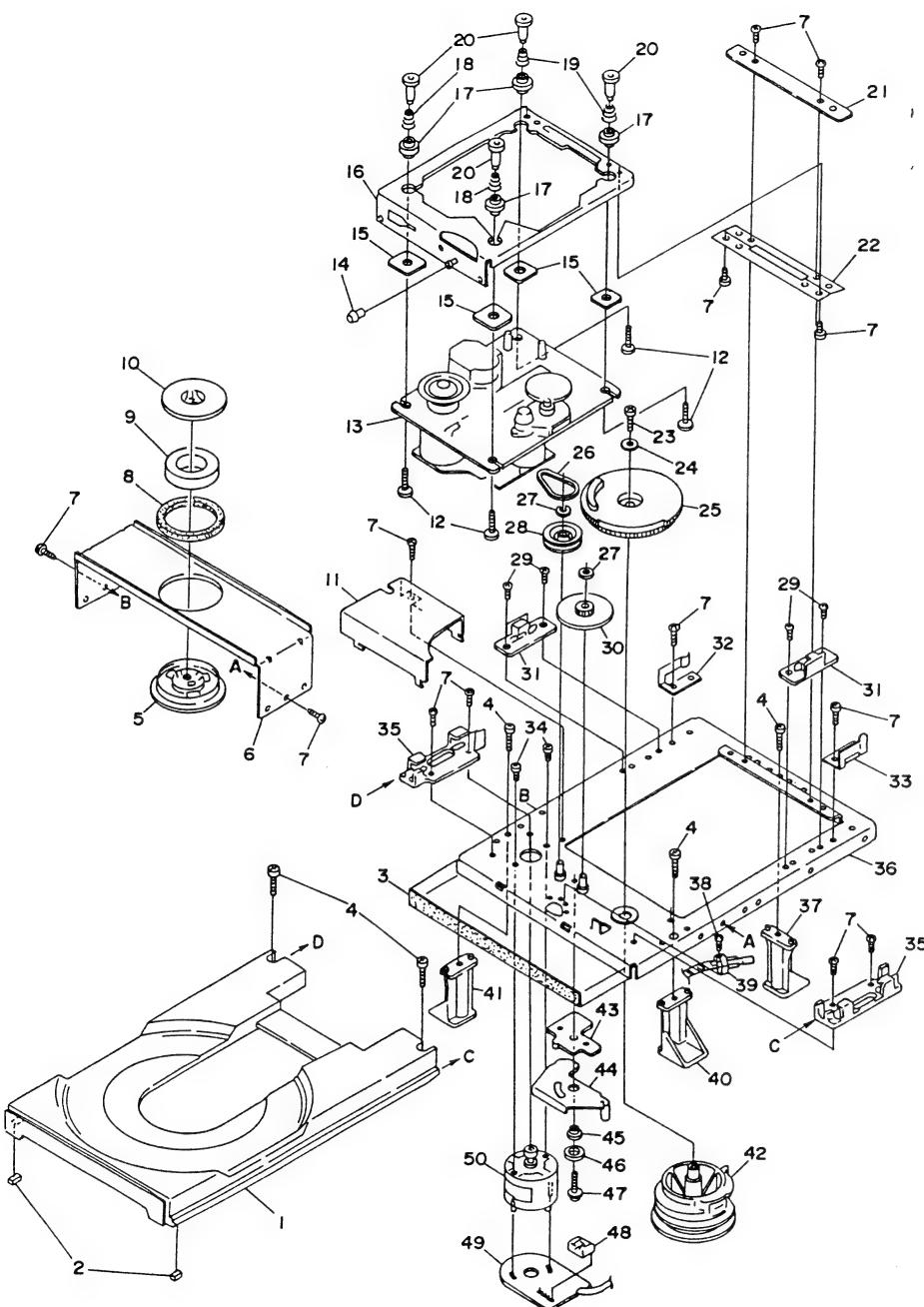
## PARTS LIST

REF.NO.	PART NO.	DESCRIPTION	REF.NO.	PART NO.	DESCRIPTION
1	24506878	Tray	26	24602507	Belt
2	24506897	Damper	27	870144	Washer
3	28140980	Front tape	28	24506884	Loading pulley
4	838430108	3TTB+10B(BC),Self-tapping screw	29	833120047	2TTP+4S,Tapping screw
5	24506959	Chucking pulley	30	27301227	Middle gear
6	24506876	Chucking chassis	31	27301230	Tray holder
7	834126069	2.6TTS+6C,Self-tapping screw	32	24506888	Tray guide,left
8	24818004	Yoke damper	33	24506887	Tray guide,right
9	24832003	Magnet	34	838426038	2.6TTB+3C(BC),Self-tapping screw
10	24830001	Chucking yoke	35	27301228	Tray holder,front
11	24506879	Gear cover	36	27301224	Main chassis
12	801424	Screw with washer	37	24506890	Boss,back
13		KSM-2101AAM,Pickup drive unit	38	834120049	2TTS+4C,Self-tapping screw
14	24506870	Roller	39	25065402	Leafswitch
15	24506871	Plate	40	24506889	Boss,right
16	24506898	Sub chassis	41	24506890	Boss,left
17	24509401	Insulator	42	24506883	Control cam
18	27180442	Spring A	43	24506892	Link plate
19	27180441	Spring B	44	24506894	Stopper link
20		Shaft	45	24506893	Boss
21	24506864	Hinge holder	46	24506895	Spacer
22		Hinge	47	83112608	2.6TTW+8S,Self-tapping screw
23	838426108	2.6TTB+10B(BC),Self-tapping screw	48	25050393	Connector pin
24	8761301008	W3X10F,Washer	49	24505269	Motor pc board
25	24506882	Drive gear	50	24506886	Motor ass'y

## REMOVAL OF DISC TRAY



1. Loosen the screw for stopper until the head of screw and the tray are the same height.
2. Turn POWER switch to on.
3. Press OPEN/CLOSE button to open the tray.
4. Turn POWER switch to off.
5. Remove the tray.



## ADJUSTMENT PROCEDURES

### Instruments required

Dual trace oscilloscope, Frequency counter, AF oscillator, Test disc (SONY YEDS-18), AC voltmeter, Jitter meter, and Socket P4 (Part no. 25050138)

### 1. Focus offset adjustment

Load the test disc YEDS-18 on the tray and play the track 2.

Connect the oscilloscope or jitter meter to terminal P106.

(Oscilloscope)

Adjust R109 until a clear trace of waveform pattern as shown photo 1 appear on the oscilloscope.

When the amount of jitter is broad, set R109 to mechanical center.

(Jitter meter)

Adjust R109 until the jitter meter reading becomes minimum. (Less than 10ns.)

After adjustment, disconnect the oscilloscope or jitter meter.

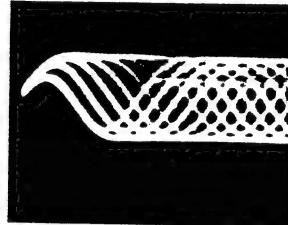
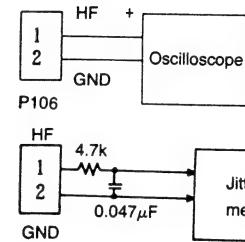


Photo 1



Oscilloscope range  
Vertical : 0.5V/div.  
Horizontal : 0.5 μs/div.  
DC, Ground: Center

### 2. Tracking offset adjustment

Load the test disc YEDS-18 on the tray and play the track 2.

Turn R116 to minimum position. (Counter clockwise)

Connect the oscilloscope between pin 3 (TR) of P107 and pin 2 (GND) of P106.

Adjust R106 until the center of tracking error signal on the oscilloscope becomes GND level.

Turn R116 to the mechanical center.

After adjustment, disconnect the oscilloscope.

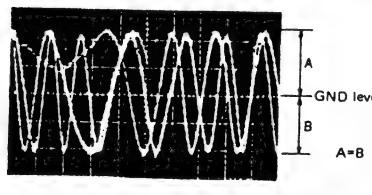
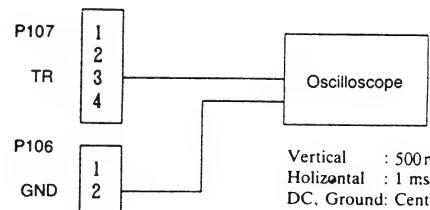


Photo 2



Vertical : 500 mV/div.  
Horizontal : 1 ms/div.  
DC, Ground: Center

### 3. Focus gain adjustment

Set the output of AF oscillator to 1kHz, 1~1.5Vp-p.

Play the track 2 of test disc.

Connect the oscilloscope and the AF oscillator as shown below.

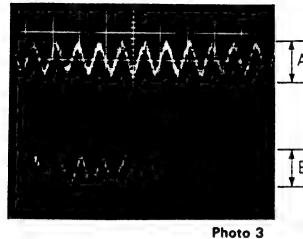
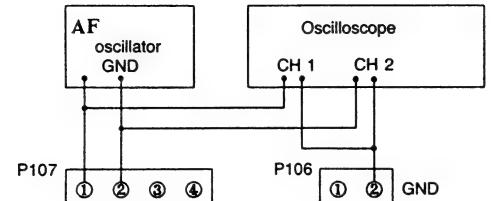


Photo 3



Vertical : 0.2V/div.  
Horizontal: 0.2 ms/div.

Adjust R117 until 1kHz components of channels 1 and 2 on oscilloscope become same level.

After adjustment, disconnect the AF oscillator and the oscilloscope.

### 4. Tracking gain adjustment

Set the output of AF oscillator to 1.2kHz, 1~1.5Vp-p.

Play the track 2 of test disc.

Connect the oscilloscope and the AF oscillator as shown below.

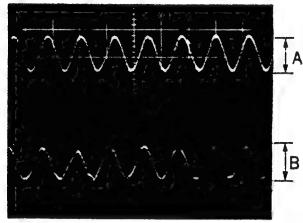
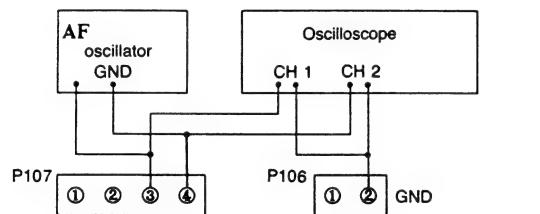


Photo 4

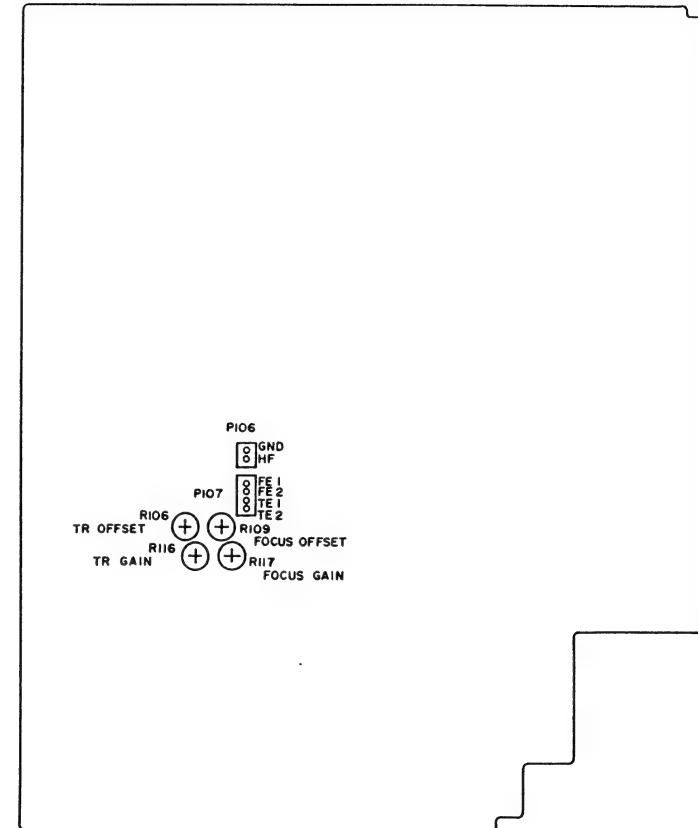


Vertical : 0.2V/div.  
Horizontal: 0.2 ms/div.

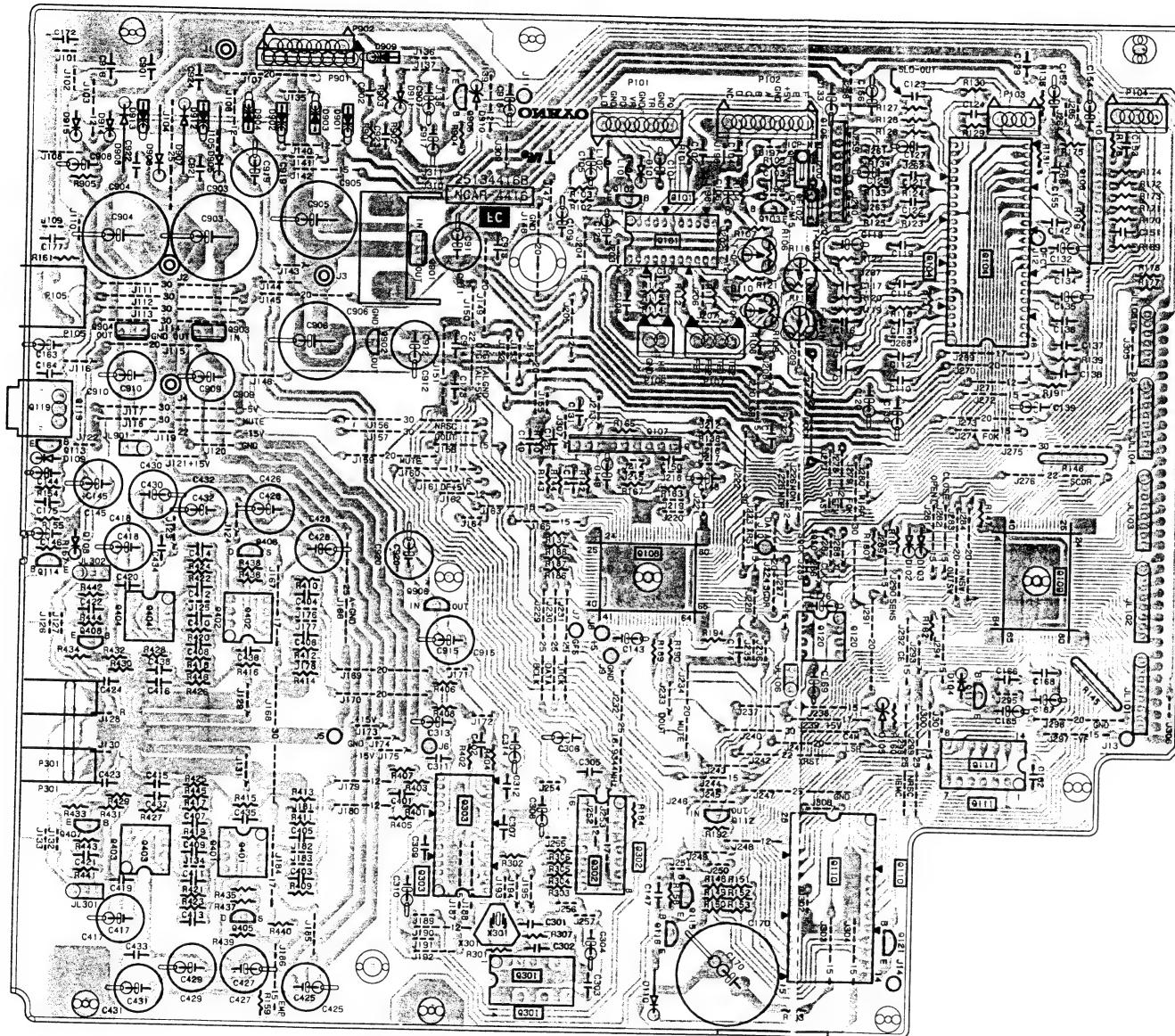
Adjust R116 until 1.2kHz components of channels 1 and 2 on oscilloscope become same level.

After adjustment, disconnect the AF oscillator and the oscilloscope.

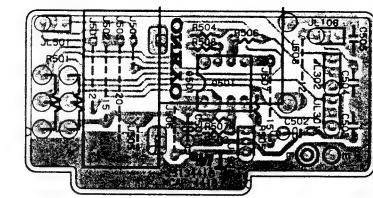
After adjustment, confirm that the center of tracking error signal becomes GND level.



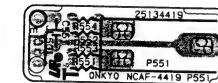
#### **PRINTED CIRCUIT BOARD VIEW FROM BOTTOM SIDE**



## MAIN CIRCUIT PC BOARD

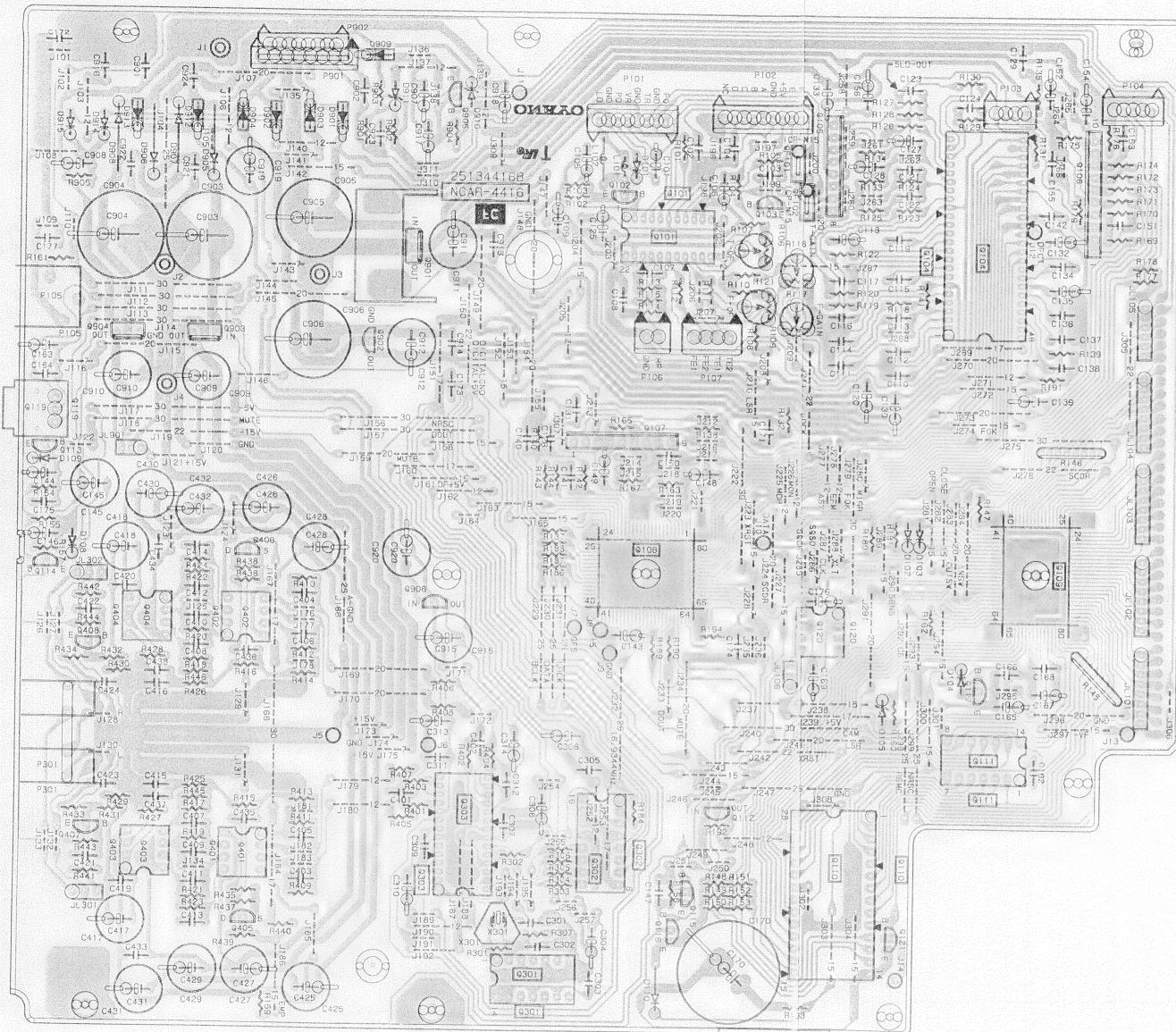


## HEADPHONE AMPLIFIER PC BOARD

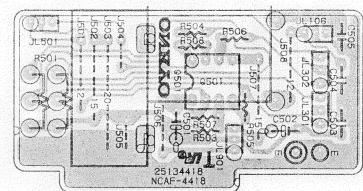


## HEADPHONE TERMINAL PC BOARD

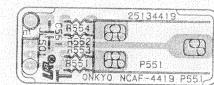
## PRINTED CIRCUIT BOARD VIEW FROM BOTTOM SIDE



MAIN CIRCUIT PC BOARD



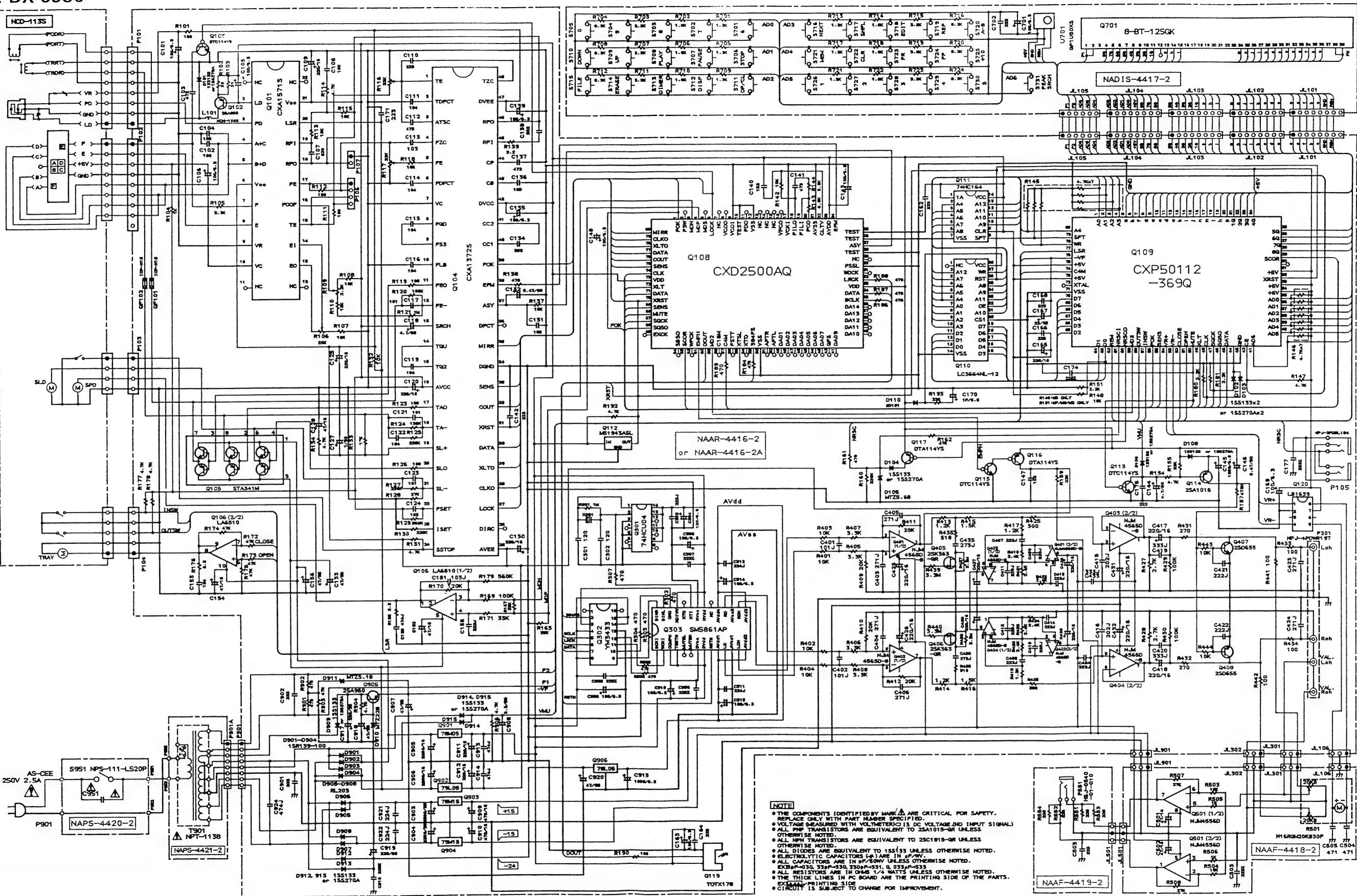
HEADPHONE AMPLIFIER PC BOARD



HEADPHONE TERMINAL PC BOARD

## SCHEMATIC DIAGRAM

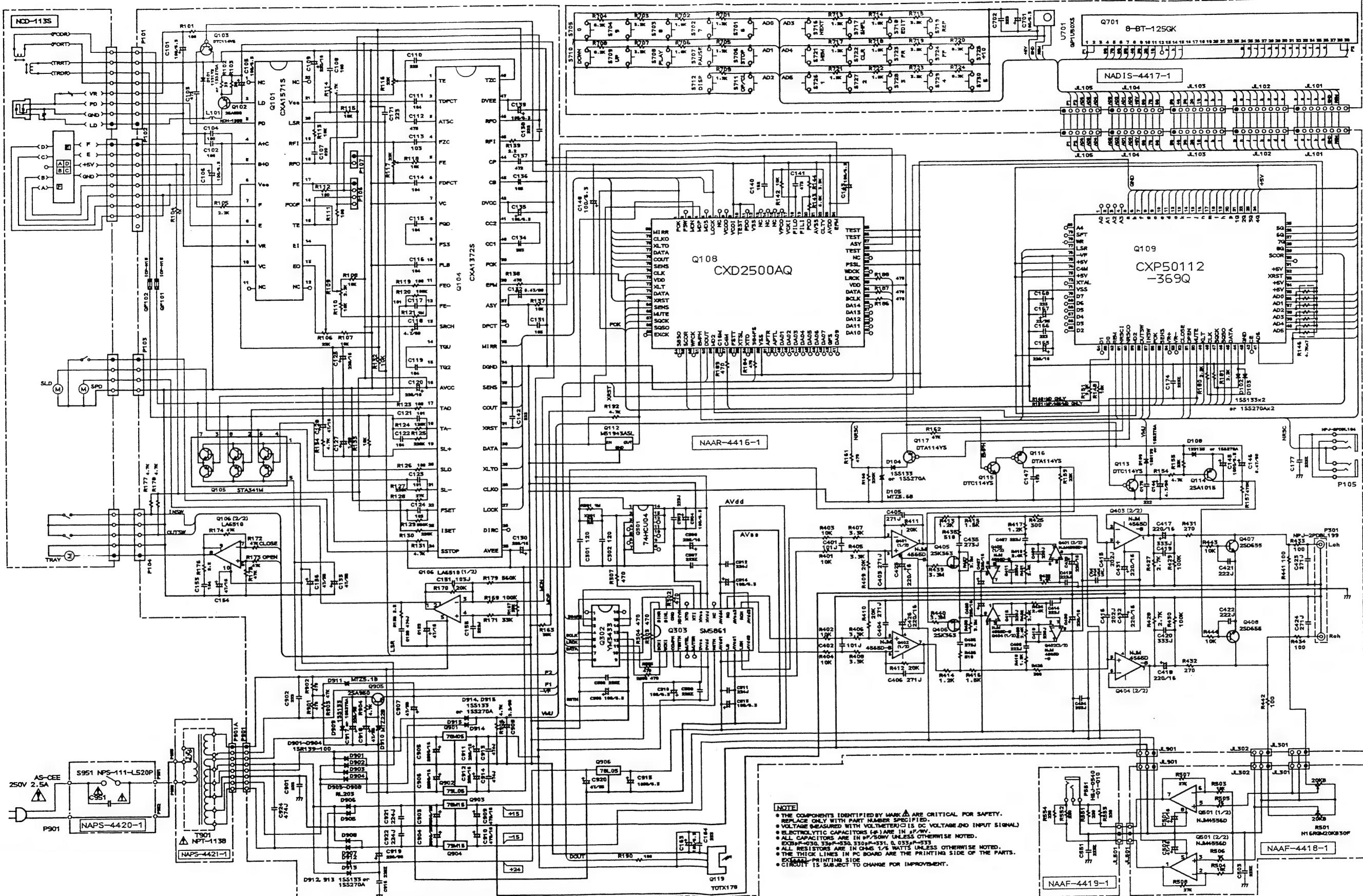
MODEL DX-6930



A | B | C | D | E | F | G | H

# SCHEMATIC DIAGRAM

MODEL DX-6920

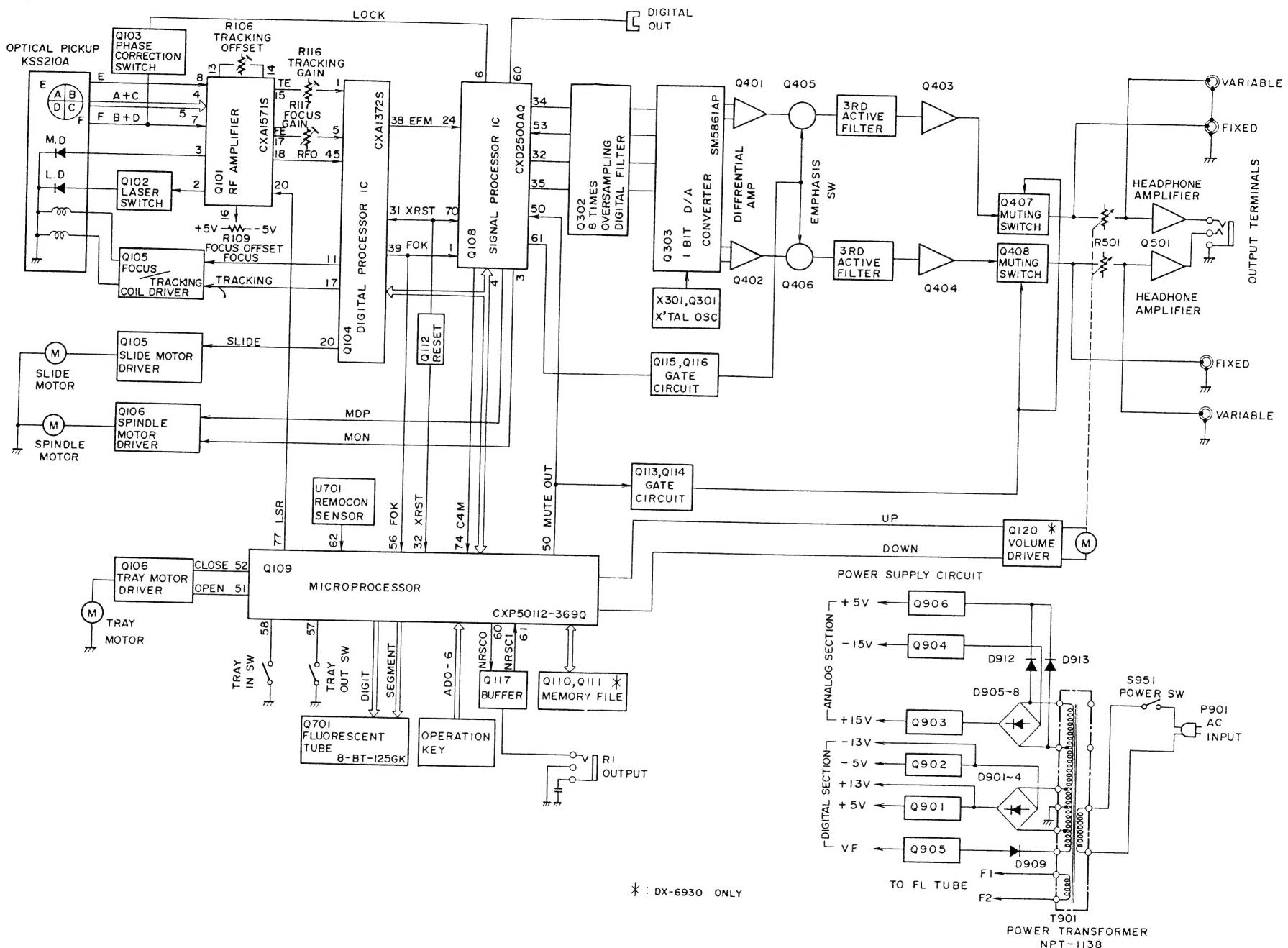


## PRINTED CIRCUIT BOARD-PARTS LIST

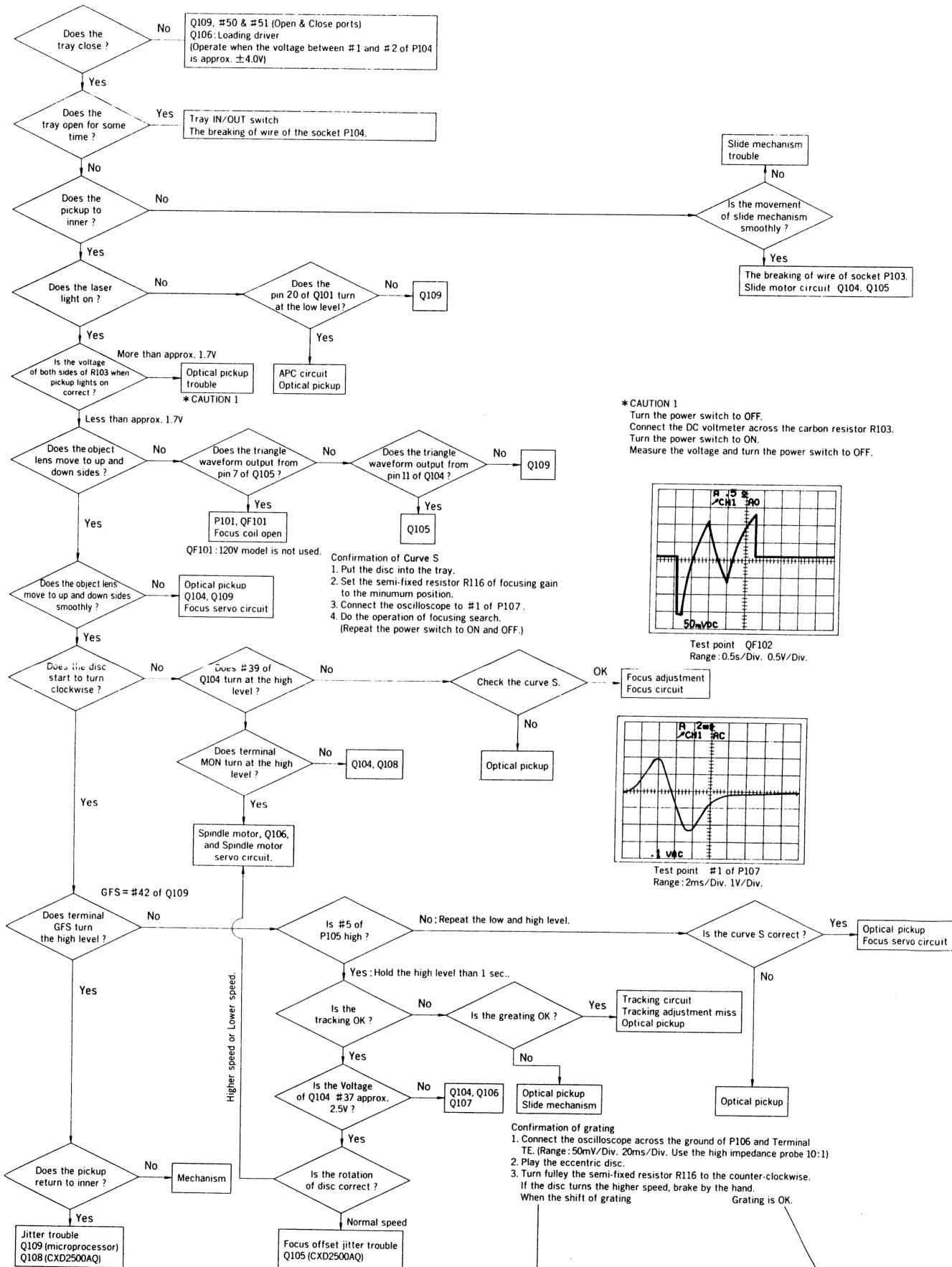
MAIN CIRCUIT PC BOARD(NAAR-4416-1A/2A)			DISPLAY CIRCUIT PC BOARD(NADIS-4417-1/2)			HEADPHONE AMPLIFIER PC BOARD(NAAF-4418-1/2)			
CIRCUIT NO.	PART NO.	DESCRIPTION	CIRCUIT NO.	PART NO.	DESCRIPTION	CIRCUIT NO.	PART NO.	DESCRIPTION	
	ICs	Capacitors		Capacitors	Capacitors		Q501	222654	NJM4556D,IC
Q101	22240404	CXA1571S	C101,C105	354721019	100 $\mu$ F,6.3V,Elect.	C425-C432	354742219	220 $\mu$ F,16V,Elect.	
Q104	22240366	CXA1372S	C103,C137	374724724	4700pF±5%,50V,Plastic	C433,C434	374723334	0.033 $\mu$ F±5%,50V,Plastic	
Q106	22240034	LA6510	C106	354721019	100 $\mu$ F,6.3V,Elect.	C435,C436	374722734	0.027 $\mu$ F±5%,50V,Plastic	
Q108	22240487	CXD2500AQ	C109,C120	354742219	220 $\mu$ F,16V,Elect.	C903,C904	393163327	3300 $\mu$ F,35V,Elect.	
Q109	22240585	CXP50116-369Q	C110	374722234	0.022 $\mu$ F±5%,50V,Plastic	C905,C906	354742229	2200 $\mu$ F,16V,Elect.	
Q110	22240198	LC3664NL-12	C111	374721044	0.1 $\mu$ F±5%,50V,Plastic	C907,C918	354764709	47 $\mu$ F,35V,Elect.	
Q111	222741645	74HC164	C112,C141	374724734	0.047 $\mu$ F±5%,50V,Plastic	C908	354780229	2.2 $\mu$ F,50V,Elect.	
Q112	22240018	M51943ASL	C113,C124	374721034	0.01 $\mu$ F±5%,50V,Plastic	C909,C910	354744719	470 $\mu$ F,16V,Elect.	
Q120	22240322	LB1639	C114-C116	374721044	0.1 $\mu$ F±5%,50V,Plastic	C911,C912	354742219	220 $\mu$ F,16V,Elect.	
Q301	222755	74HC04P	C118,C144	354780479	4.7 $\mu$ F,50V,Elect.	C913,C914	375624744	0.47 $\mu$ F±5%,50V,Plastic	
Q302	22240321	YM3433	C119,C122	374721044	0.1 $\mu$ F±5%,50V,Plastic	C915	354721029	1000 $\mu$ F,6.3V,Elect.	
Q303	22240520	SM5861AP	C125,C130	354742219	220 $\mu$ F,16V,Elect.	C917	354762219	220 $\mu$ F,35V,Elect.	
Q401-Q404	22240201	NJM4565D-B	C127	354780109	1 $\mu$ F,50V,Elect.	C919	354764719	470 $\mu$ F,35V,Elect.	
Q901	222780055MIT	M5F78M05L	C128,C152	354744709	47 $\mu$ F,16V,Elect.	C920	354764709	47 $\mu$ F,35V,Elect.	
Q902	222790053	79L05	C129	374724744	0.47 $\mu$ F±5%,50V,Plastic	C921,C922	374722244	0.22 $\mu$ F±5%,50V,Plastic	
Q903	222780155MIT	M5F78M15L	C131,C136	374721034	0.01 $\mu$ F±5%,50V,Plastic	C924	374724744	0.47 $\mu$ F±5%,50V,Plastic	
Q904	222790155MIT	M5F79M15L	C132	354784799	0.47 $\mu$ F,50V,Elect.			Resistors	
Q906	222780053	78L05	C133,C156	354764709	47 $\mu$ F,35V,Elect.	R106	5210066	N06HR22KBD,Semi-fixed	
			C134	374723334	0.033 $\mu$ F±5%,50V,Plastic	R109	5210060	N06HR2.2KBD,Semi-fixed	
			C135,C139	354721019	100 $\mu$ F,6.3V,Elect.	R116,R117	5210066	N06HR22KBD,Semi-fixed	
Q102,Q905	2211503 or	2SA950-O or	C138,C155	374722224	2200pF±5%,50V,Plastic	R145	49163472407	◎ RM1/10J 4.7K×7,Array	
	2211504	2SA950-Y	C140	374721524	1500pF±5%,50V,Plastic	R146	49163472407	RM1/10J 4.7K×7,Array	
Q103	221281	DTC114YS	C143	354721019	100 $\mu$ F,6.3V,Elect.			Plugs	
Q105	22240168	STA341M-L	C145	354721029	1000 $\mu$ F,6.3V,Elect.	P101	25055152	NPLG-8P136	
Q113,Q115	221281	DTC114YS	C146	354784799	0.47 $\mu$ F,50V,Elect.	P102	25055153	NPLG-9P137	
Q114	2211455	2SA1015-GR	C147,C151	374721034	0.01 $\mu$ F±5%,50V,Plastic	P103	25055148	NPLG-4P132	
Q116,Q117	2213090	DTA114YS	C148,C149	354721019	100 $\mu$ F,6.3V,Elect.	P104	25055149	NPLG-5P133	
Q405,Q406	2212524	2SK363-GR	C153	374721044	0.1 $\mu$ F±5%,50V,Plastic	P106	25055038	NPLG-2P29	
Q407,Q408	2211705 or	2SD655-E or	C154	354744709	47 $\mu$ F,16V,Elect.	P107	25055045	NPLG-4P33	
	2211706	2SD655-F	C163	354721019	100 $\mu$ F,6.3V,Elect.	P901	25055138	NPLG-8P122	
			C165	354742219	220 $\mu$ F,16V,Elect.			Jack	
Q119	24120031	TOTX178,Transmitter	C167	354762209	22 $\mu$ F,35V,Elect.	P105	25045330	NPJ-2PDBL184	
			C169	354721019	◎ 100 $\mu$ F,6.3V,Elect.			Terminal	
QF101,QF102	252112	△ ICP-N15	C170	3000058	◎ 1 $\mu$ F,5.5V,Super	P301	25045353	● NPJ-2PDBL199,Output	
			C175	374722224	2200pF±5%,50V,Plastic		25045351	◎ NPJ-4PDWR197,Output	
D101-D104	223163 or	ISS133 or	C304,C306	354721019	100 $\mu$ F,6.3V,Elect.			Holder	
D108,D109	223205	ISS270A	C308	354742219	220 $\mu$ F,16V,Elect.			27190751	
D105	224450562	MTZ5.6B	C310	354721019	100 $\mu$ F,6.3V,Elect.				
D110	223191	◎ SD101	C311,C312	374722244	0.22 $\mu$ F±5%,50V,Plastic				
D901-D904	22380032	1SR139-100	C313,C314	354721019	100 $\mu$ F,6.3V,Elect.				
D905-D908	22380045	RL203	C401,C402	373301014	100pF±5%,125V,PP	U701	24130003	GPI1U50XS,Remote control sensor	
D909	223163 or	ISS133 or	C403-C406	373302714	270pF±5%,125V,PP	S701-S712	25035548	NPS-111-S510,Push switches	
D912-D915	223205	ISS270A	C407,C408	374722224	2200pF±5%,50V,Plastic	S713-S715	25035548	◎ NPS-111-S510,Push switches	
D910	224452202	MTZ22B	C413,C414	374722224	2200pF±5%,50V,Plastic	S716-S719	25035548	NPS-111-S510,Push switches	
D911	224450512	MTZ5.1B	C415,C416	372122024	2000pF±5%,50V,Styrene	S720,S731	25035548	◎ NPS-111-S510,Push switches	
			C417,C418	354742219	220 $\mu$ F,16V,Elect.	S721-S730	25035548	NPS-111-S510,Push switches	
X301	3010159	AT-38-169	C419,C420	374723334	0.033 $\mu$ F±5%,50V,Plastic	Q701	212109	8-BT-125GK,FL tube	
			C421,C422	374722224	2200pF±5%,50V,Plastic	C701	353721019	100 $\mu$ F,6.3V,Elect. capacitor	
L101	233411K100	NCH-1383	C423,C424	373302714	270pF±5%,125V,PP			Holder FL	

NOTE: THE COMPONENTS IDENTIFIED BY MARK △ ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

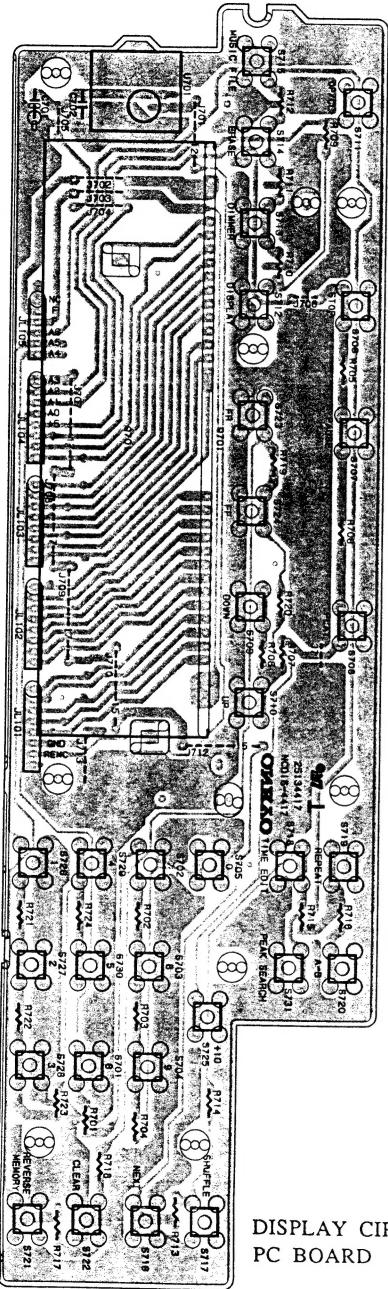
## BLOCK DIAGRAM



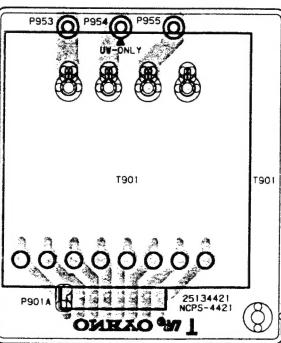
## TROUBLESHOOTING GUIDE



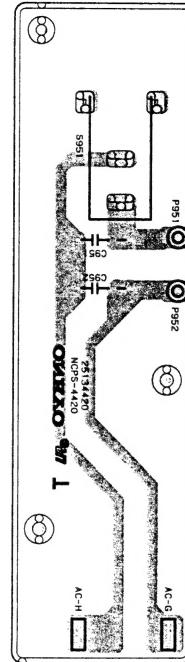
#### **PRINTED CIRCUIT BOARD VIEW FROM BOTTOM SIDE**



## DISPLAY CIRCUIT PC BOARD



## TERMINAL PC BOARD



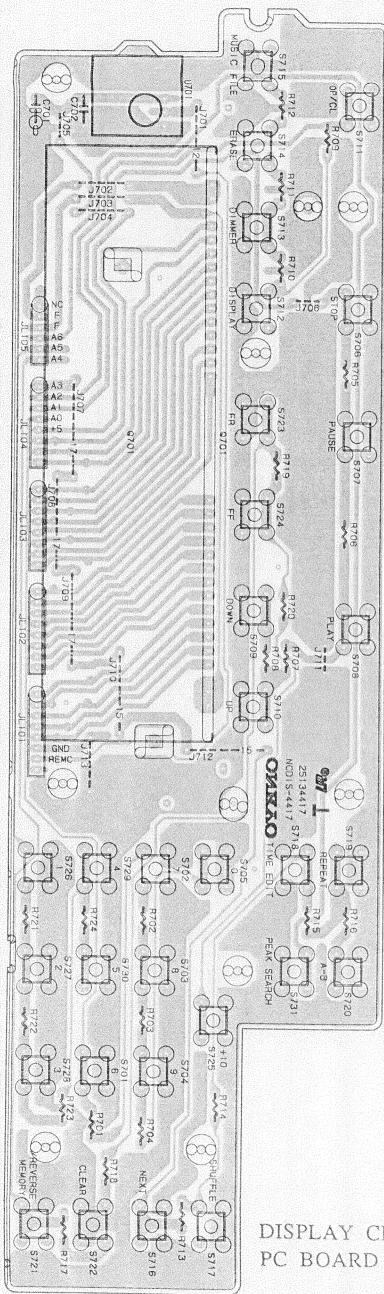
## POWER SUPPLY CIRCUIT PC BOARD

**ONKYO CORPORATION**

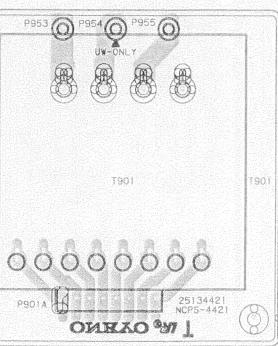
International Division: Onarimon Yusen Bldg., 23-5, Nishi-Shimbashi 3-chome, Minato-ku,  
TOKYO 105, JAPAN Tel: 03-3432-6987 Fax: 03-3436-6979

**ONKYO DEUTSCHLAND GMBH ELECTRONICS**  
Industriestrasse 20, 8034 Germering, GERMANY  
Tel: 089 84 93 20 Fax: 089 84 93 226

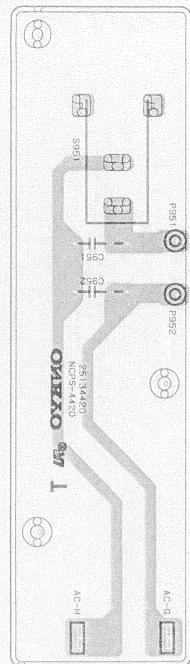
#### PRINTED CIRCUIT BOARD VIEW FROM BOTTOM SIDE



DISPLAY CIRCUIT  
PC BOARD



### TERMINAL PC BOARD



## POWER SUPPLY CIRCUIT PC BOARD

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